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ANDELI TIG-205 PRO

ANDELI AC/DC Aluminum TIG Welder TIG-205 PRO Instruction Manual

MODEL: TIG-205 PRO

Brand: ANDELI

		Introduction		Safety			
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1. INTRODUCTION

This manual provides essential instructions for the safe and efficient operation of your ANDELI AC/DC Aluminum TIG Welder TIG-205 PRO. This multiprocess welding machine is designed for precision welding across various materials and applications, offering AC+DC TIG, Stick (MMA), DC TIG, DC PULSE TIG, AC TIG, AC PULSE TIG, Lift TIG, AC Cold welding, DC Cold welding, and Spot Welding capabilities. Please read this manual thoroughly before operating the equipment.



Figure 1: ANDELI TIG-205 PRO Welder with included welding helmet.

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Video 1: An instructional video demonstrating the various functions and features of the TIG-205 PRO AC/DC welding machine.

2. SAFETY INFORMATION

Welding operations involve significant risks. Always prioritize safety to prevent injury or damage to equipment. This section outlines general safety precautions. Refer to local safety regulations and standards for comprehensive guidelines.

2.1 General Safety Precautions

- **Electric Shock:** Welding current can cause fatal electric shock. Ensure proper grounding and insulation. Never touch live electrical parts.
- **Fumes and Gases:** Welding produces fumes and gases that can be hazardous to health. Work in a well-ventilated area or use an approved respirator.

- **Arc Rays:** Arc rays can burn eyes and skin. Wear a welding helmet with appropriate shade and protective clothing.
- **Fire and Explosion:** Welding sparks and hot metal can cause fire or explosion. Keep flammable materials away from the work area.
- **Hot Parts:** Hot metal and equipment can cause severe burns. Allow equipment to cool before handling.
- **Noise:** Excessive noise can damage hearing. Wear hearing protection.

3. SETUP

Proper setup is crucial for safe and effective welding. Follow these steps to prepare your TIG-205 PRO welder for operation.

3.1 Unpacking and Inspection

- Carefully unpack all components and inspect for any shipping damage.
- Verify that all accessories listed in the packing list are present.



Figure 2: The TIG-205 PRO welder shown with its standard accessories.

3.2 Power Connection

The TIG-205 PRO supports dual voltage input (110V/220V). The machine automatically detects the input voltage.

- Ensure the power switch on the rear panel is in the **OFF** position.
- Connect the appropriate power plug to a compatible power outlet.
- Turn the power switch to the **ON** position. The LCD display will illuminate.

3.3 Gas Connection

For TIG welding, an inert shielding gas (typically pure argon) is required.

- Connect the gas hose from your argon cylinder regulator to the gas inlet connector on the rear panel of the welder.
- Ensure all connections are tight to prevent gas leaks.
- Set the gas flow rate according to your welding application (refer to welding charts for guidance).

3.4 TIG Torch Connection

- Connect the TIG torch power cable to the negative (-) quick connector on the front panel.
- Connect the TIG torch control cable to the corresponding control port.
- Connect the gas hose from the TIG torch to the gas outlet on the front panel.

3.5 Ground Clamp Connection

- Connect the ground clamp cable to the positive (+) quick connector on the front panel.
- Securely attach the ground clamp to the workpiece or welding table, ensuring good electrical contact.

3.6 Electrode Holder Connection (for Stick/MMA Welding)

- For Stick welding, connect the electrode holder cable to the positive (+) quick connector on the front panel.
- The ground clamp remains connected to the negative (-) quick connector.

3.7 Foot Pedal Connection

- Connect the foot pedal cable to the designated foot pedal port on the front panel.
- The foot pedal allows for hands-free amperage control during TIG welding.

4. OPERATING MODES

The TIG-205 PRO features a large 4.3-inch LCD digital display for easy mode selection and parameter adjustment. Use the rotating and pressing buttons to navigate the menu.

Professional Parameter Settings

It supports the setting of various parameters, such as frequency and duty cycle, allowing you to better configure the device to meet your welding needs.



Figure 3: Detailed view of the 4.3-inch LCD digital display for parameter settings.

4.1 Mode Selection and Parameter Adjustment

- Rotate the main knob to select the desired welding mode (AC+DC TIG, Stick, DC TIG, etc.).
- Press the knob to confirm selection or to enter parameter adjustment for the selected mode.
- Adjust parameters such as current, voltage, pulse frequency, AC balance, pre-gas, post-gas, and 2T/4T mode as needed for your application.



Figure 4: The large LCD display offers professional and precise control compared to smaller displays.

4.2 TIG Welding (AC/DC)

The TIG-205 PRO is capable of welding aluminum, carbon steel, stainless steel, and titanium.

- **AC TIG:** Ideal for aluminum and magnesium alloys. Features SQUAREWAVE for stable dynamic arc, SINE WAVE for lower noise, and TRAPEZOIDAL WAVE for low heat output and rapid prototyping on thin plates.
- **DC TIG:** Suitable for stainless steel, carbon steel, copper, and titanium.
- **Pulse TIG:** Provides excellent welding effects, especially for beginners and professionals seeking precise heat control.
- **Lift TIG:** Offers a non-HF start option for sensitive electronics.

Your browser does not support the video tag.

Video 2: Demonstrates various TIG welding techniques and settings for the TIG-205 PRO.

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Video 3: Shows practical examples of Trapezoidal Wave AC TIG welding on 1mm, 2mm, and 3mm aluminum, and Cold Weld DC on 1mm, 2mm, and 3mm stainless steel.

4.3 Cold Welding

Cold welding mode is designed to reduce deformation and discoloration, resulting in silver-white welds on aluminum and stainless steel. Pure argon is required for this mode.

- Offers triple hands-free welding control, allowing operation with a foot pedal or TIG torch.
- Focus solely on your weld, with the option to trigger your helmet with the arc (cold welding helmet sold separately).

4.4 Spot Welding

The machine also supports spot welding for quick and precise joining of materials.

4.5 Stick (MMA) Welding

For general-purpose welding of thicker materials, the Stick (MMA) mode provides robust performance.



Figure 5: The TIG-205 PRO is suitable for various work scenarios including automotive welding, wheel hub repair, and precision parts

welding.

5. MAINTENANCE

Regular maintenance ensures the longevity and safe operation of your welding machine.

5.1 Cleaning

- Periodically clean the internal components of the machine using dry, compressed air to remove dust and metal particles.
- Wipe down the exterior with a clean, dry cloth. Avoid using solvents.

5.2 Inspection

- Regularly inspect all cables, connections, and the TIG torch for wear, damage, or loose connections. Replace damaged parts immediately.
- Check the gas hose for any kinks or leaks.

6. TROUBLESHOOTING

This section provides solutions to common operational issues. If problems persist, contact customer support.

6.1 Common Issues

- No Power:** Check power cable connection, wall outlet, and machine's power switch.
- No Arc:** Ensure ground clamp is securely attached, TIG torch is correctly connected, and gas flow is adequate. Check for proper electrode installation.
- Poor Weld Quality:** Adjust welding parameters (current, voltage, gas flow, pulse settings) according to material thickness and type. Ensure proper electrode preparation.
- Overheating:** Allow the machine to cool down. Ensure proper ventilation and avoid exceeding the duty cycle.

7. SPECIFICATIONS

Feature	Specification
Model	TIG-205 PRO
Input Voltage	110V/220V Dual Voltage
Max Amperage	205 Amp

Feature	Specification
Welding Modes	AC+DC TIG, Stick(MMA), DC TIG, DC PULSE TIG, AC TIG, AC PULSE TIG, Lift TIG, AC Cold welding, DC Cold welding, Spot Welding
Display	4.3" Large LCD Digital Display
Waveforms (AC TIG)	SQUAREWAVE, SINE WAVE, TRAPEZOIDAL WAVE
Applicable Materials	Aluminum, Carbon steel, Stainless steel, Titanium
ASIN	B0FKGXWQNB
Date First Available	April 1, 2025

8. WARRANTY & SUPPORT

The ANDELI TIG-205 PRO welder comes with a 2-year warranty, ensuring reliability and customer satisfaction.

8.1 Warranty Information

Please retain your proof of purchase for warranty claims. The warranty covers defects in materials and workmanship under normal use.

8.2 Customer Support

For technical assistance, troubleshooting, or warranty inquiries, please contact ANDELI customer support through the official website or your retailer.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

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